

Patent Claims

1. Plastic joint designed to hold a selector pin that is capable of moving around at least one swivel axis, comprising an inner, first joint element and an outer, second joint element for mounting in a device, characterized in that the first joint element (10) is comprised of a first plastic material with axially opposite end sections (31, 32), and in that the second joint element (20) is comprised of a second plastic material with borings (21, 22) that lie within the swiveling axis (X-X), which hold the end sections (31, 32) such that they form the swiveling axis (X-X).
2. Plastic joint according to Claim 1, characterized in that the selector pin (50) is equipped on a part of its circumference with profiling, especially longitudinal grooves (51), in which the first joint element (10) is set.
3. Plastic joint according to Claim 1, characterized in that directly adjacent to the first joint element (10), a ring (11) made of the second plastic material encompasses the selector pin (50).
4. Plastic joint according to Claim 1, characterized in that the first plastic material is polyoxymethylene (POM), and the second plastic material is polypropylene (PP).
5. Plastic joint according to Claim 1, characterized by a seal element that connects the first joint element (10) and the ring (11) with the second joint element (20).
6. Plastic joint according to Claim 6 [sic], characterized in that the seal element is comprised of a film (40) made of thermoplastic polymer (TPE), which spans a common end surface and is sealed there.
7. Plastic joint according to Claim 5, characterized in that the seal element has a restoring function.

8. Method for producing a plastic joint according to Claim 1, characterized by the following process steps:
 - a) Molding the ring (11) around the selector pin (50),
 - b) Injecting the second joint element (20) with opposite borings (21, 22),
 - c) Inserting the selector pin (50) and the outer sleeve (20) opposite one another in an injection molding form, and injecting the first joint element (10) with the end sections (31, 32) through the borings (21, 22) in the second joint element (20), up to the selector pin (50), to form the swiveling axis (X-X).
9. Plastic joint according to Claim 1, characterized in that a third joint element (60) having a second swiveling axis (Y-Y) that lies perpendicular to the first swiveling axis (X-X) is provided, which engages in end sections (33, 34) of the second joint element (20) to form a cardan joint.
10. Plastic joint according to Claim 9, characterized in that two of the joint elements are combined to form a spherical joint element (70), which encompasses the selector pin (50) and is held in a retaining element (80) such that it can swivel in two planes.
11. Plastic joint according to Claim 10, characterized in that the seal element (40) extends from the selector pin (50) over the retaining element (80).
12. Use of a plastic joint according to one of the preceding claims as a joint in a continuously variable switch in devices for controlling machines.